

ipd1000jmudsvdNTS-10

**Defense Information Infrastructure (DII)**

**Common Operating Environment (COE)**

**Software Version Description (SVD) for the  
JMuddR Segment**

**Preliminary Release**

**Document Version 1.0.0.0**

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# **1 SCOPE**

## **1.1 Identification**

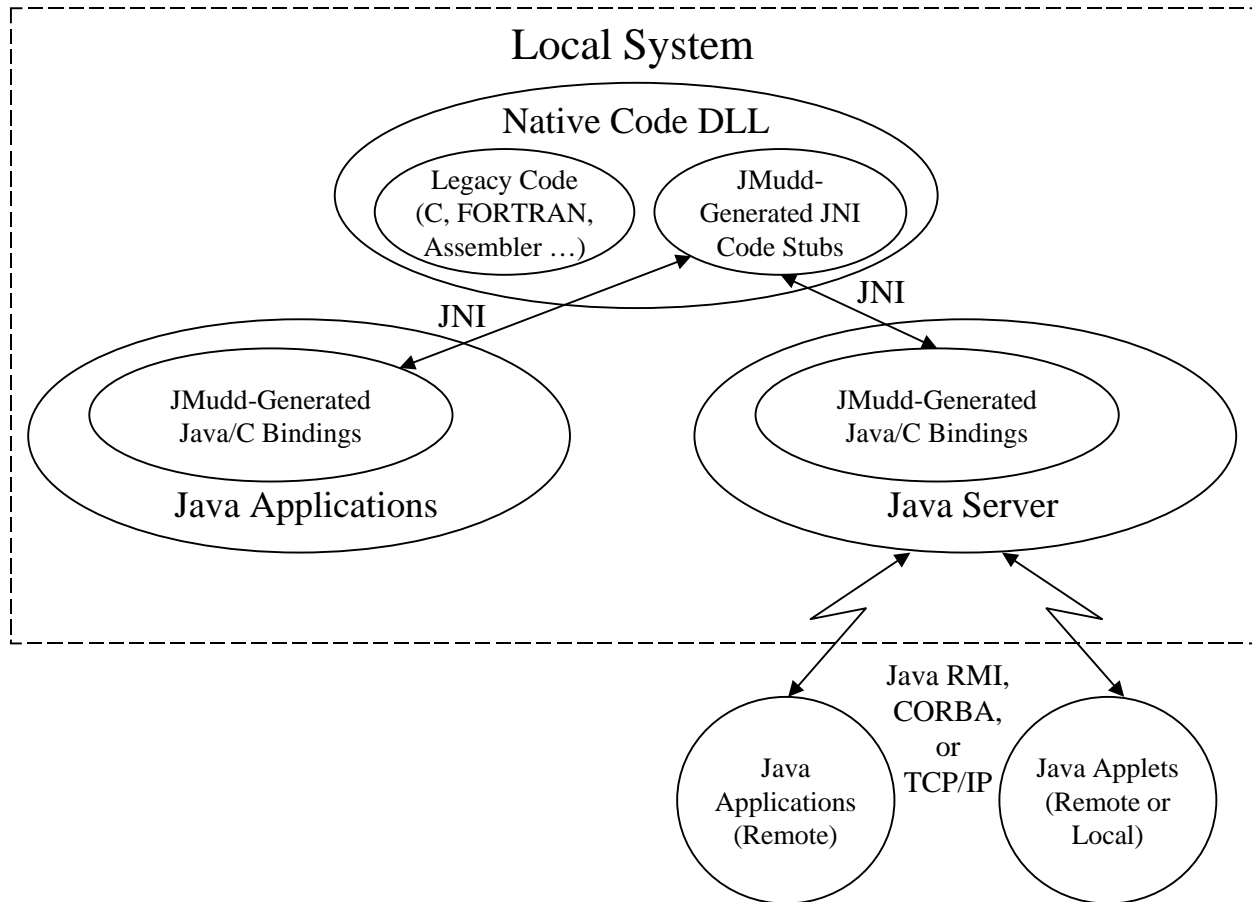
This Software Version Description (SVD) describes the JMudd Runtime. The JMudd Runtime environment is required for applications developed using the JMudd. JMudd is a programming toolkit for generating Java/C language bindings that allow a Java application to call C functions and access C data types (structures, unions, arrays, etc.).

At runtime, data is marshalled between Java and C using the Java Native Interface (JNI). The JNI is distributed by Sun Microsystems as part of the Java Development Kit (JDK), since release 1.1 of the JDK.

This software is designed to run under the Defense Information Infrastructure (DII) Common Operating Environment (COE), release 3.1, on a Hewlett-Packard computer running HP/UX 10.20, a Sun Microsystems computer running Solaris 2.5.1, or a personal computer running Microsoft Windows NT 4.0.

The JMudd Runtime Segment is primarily composed of two software components: the Java archive `jmudd.jar` and the Dynamic Link Library (or shared library, as appropriate) `jmudd.dll` (or `jmudd.sl`). The `jmudd.jar` Java archive provides a set of supporting Java classes for use in conjunction with the JMudd generated Java/C bindings. The `jmudd.dll` dynamic link library provides a set of convenience routines used in the JMudd-generated JNI code stubs that are used to marshal data between Java and C language data types.

Figure 1-1 below illustrates how the JMudd-generated Java/C bindings can be used to develop remote or local Java applications or Applets.



**Figure 1-1. Development of Remote or Local Java Applications or Applets from JMudd-Generated Java/C Bindings**

## 1.2 System Overview

The Navy Integrated Tactical Environmental Subsystem (NITES) has evolved from the Tactical Environmental Support System (TESS) to take advantage of the latest industry-based Commercial Off-The-Shelf (COTS) and Government Off-The-Shelf (GOTS) technology in support of the warfighter in the 21<sup>st</sup> century. On 29 October 1996, the Oceanographer of the Navy (N96) issued a TESS(3) Program Policy statement in letter 3140 Serial 961/6U570953, modifying the TESS(3)Program by calling for five versions (I-V) of NITES. The Oceanographer also mandated compliance with the DII COE, where applicable. These NITES systems will be comprised of modular, DII COE-compliant segments for Navy and Marine Corps configurations, including:

- Regional Meteorological and Oceanographic (METOC) Centers
- Ships with Joint Maritime Command Information System (JMCIS) workstations in non-METOC spaces

- METOC Facilities and Detachments with or without a Tactical Support Center
- Marine Corps Air Stations (MCAS)
- Marine Corps Mobile Support Teams
- Allied Environmental Support Systems.

The five NITES versions are:

- NITES Version I      The local data fusion center and principal METOC analysis and forecast system (TESS(NC))
- NITES Version II      The subsystem on the JMCIS or Global Command and Control System (GCCS) (NITES/ Joint METOC Segment (JMS))
- NITES Version III      The unclassified aviation forecast, briefing and display subsystem tailored to Naval METOC shore activities (currently satisfied by the Meteorological Integrated Data Display System (MIDDS))
- NITES Version IV      The Portable subsystem composed of independent PCs/workstations and modules for forecaster, satellite, communications, and Integrated Command, Control, Communications, Computer, and Intelligence Surveillance Reconnaissance (IC4ISR) functions (currently the Interim Mobile Oceanographic Support System (IMOSS))
- NITES Version V      Foreign Military Sales (currently satisfied by the Allied Environmental Support System (AESS))

## **1.3 Product Information**

### **1.3.1 Product Qualification**

Test and Evaluation (T&E) of the software were performed at IPD's Middletown, RI facility prior to delivery of the software.

### **1.3.2 Product Restrictions**

Intellectual property rights to deliverables defined in this document are covered by the copyright license under the clause in DFARS 252.227-7013 (Nov. 1995).

### **1.3.3 Product Dependencies**

The JMuddR Segment is hosted on Tactical Advanced Computer, TAC-3 (HP 750/755)/TAC-4 (HP J210) and IBM-Compatible Personal Computer (PC) systems.

#### 1.3.3.1 HP-UNIX System

The following software must be properly installed on the HP-UNIX system prior to loading the JMudd Runtime Segment:

- TAC-3/TAC-4: HP-UX 10.20 operating system

#### 1.3.3.2 Windows NT

The following software must be properly installed on the Windows NT platform prior to loading the JMudd Runtime Segment.

- Windows NT 4.0 with Service Pack 3

## **2      REFERENCED DOCUMENTS**

The following document was used in the preparation of this SVD document:

Unnumbered	<i>Defense Information Infrastructure (DII) Common Operating</i>
July 1997	<i>Environment (COE) Integration and Runtime Specification (I&amp;RTS),</i>
	<i>(Version 3.0)</i>

## **3      VERSION DESCRIPTION**

### **3.1    Inventory of Materials Released**

All physical media and associated documentation for the JMuddR Segment are listed below.

- JMudd Runtime Segment, Version 1.0.0.0 (4 mm data tape), InstallShield Bundle (3.5" diskette)
- DII COE JMuddR Segment Software Version Description (SVD), Version 1.0.0.0, 26 June 1998

### **3.2    Inventory of Software Contents**

A listing of all executables and environment files delivered is contained in Appendix A of this document.

### **3.3    Changes Installed**

Initial software version delivery.

### **3.4    Adaptation Data**

None.

### **3.5    Related Documents**

The following is a list of documents pertinent to the software required for the Stoplights Client to be installed:

1. "Installation Procedures for HP-UX 10.20/DII COE Kernel 3.0.1.0 for JMCIS 3.0.2.5," International Research Institute, Inc., 14 April 1997.
2. "Defense Information Infrastructure (DII) Common Operating Environment (COE) How to Segment Guide, Version 4.0," Joint Interoperability and Engineering Organization Defense Information Systems Agency, 30 December 1996.



## **3.6 Installation Procedures**

The JMuddR Segment is a standard DII COE Software Segment. The appropriate operating system, DII COE HP-UX Kernel and unified build must be installed prior to loading application segments. The following sections outline steps for installing the JMudd Runtime Segment on HP-UX and Windows NT systems.

### **3.6.1 Installation Procedures for TAC-3/TAC-4 HP-UX Systems**

To prepare a tape for installation:

1. Insert the JMuddR Segment tape in the DAT drive.
2. Log in as sysadmin.
3. Select **Segment Installer** from the **Software** menu. Acknowledge any System Processing Warning box. The installer window will appear.
4. Click on the **Read Content** push button. The following information should appear.

<b>Type</b>	<b>Name</b>	<b>Version</b>	<b>Class</b>
S/W	JMuddR Segment	V.1.0.0.0	U

5. Select the JMuddR Segment from the list and click on the Install push button. The installation will begin.
6. Upon completion of the installation, remove the tape from the DAT drive and select Exit from the File menu to close the installer.

### **3.6.2 Installation Procedures for the PC: Windows NT 4.0 with Service Pack 3**

1. Select **Settings** from the **Start** menu.
2. Select **Control Panel** from the **Settings** menu.
3. Select the **Add/Rem Programs** icon from the Control Panel window.
4. Insert the JMuddR Segment diskette into the drive and select the Install push button.
5. Answer the questions; upon completion of the install, remove the diskette from the drive.

### **3.7 Possible Problems and Known Errors**

Known problems and errors with the JMuddR Segment are listed in Appendix C of this document.

## **4 NOTES**

### **4.1 Glossary of Acronyms**

API	Application Program Interface
COE	Common Operating Environment
COTS	Commercial Off-The-Shelf
DID	Data Item Description
DII	Defense Information Infrastructure
GCCS	Global Command and Control System
GOTS	Government Off-The-Shelf
JDK	Java Development Kit
JNI	Java Native Interface
METOC	Meteorological and Oceanographic
NITES	Navy Integrated Tactical Environmental Subsystem
SVD	Software Version Description
TEDS	Tactical Environmental Data Server

## Appendix A - List of Executables and Environment Files

### A.1 File Structure for HP-UX Delivery

```

total 128
drwxrwxr-x   8 COE      hawk      4096 Jun 26 09:04 ./
drwxrwxrwx  22 root     sys        4096 Jun 26 10:11 ../
drwxrwxr-x   2 COE      hawk      4096 Jun 26 09:04 Integ/
drwxrwxr-x   2 COE      hawk      4096 Jun 26 09:04 Scripts/
drwxrwxr-x   2 COE      hawk      4096 Jun 26 09:04 SegDescrip/
drwxrwxr-x   2 COE      hawk      4096 Jun 26 09:04 bin/
drwxrwxr-x   2 COE      hawk      4096 Jun 26 09:04 data/
drwxrwxr-x   2 COE      hawk      4096 Jun 26 09:04 lib/

JMuddR/Integ:
total 64
drwxrwxr-x   2 COE      hawk      4096 Jun 26 09:04 ./
drwxrwxr-x   8 COE      hawk      4096 Jun 26 09:04 ../
-rw-rw-r--   1 COE      hawk        88 Jun 26 09:04 IntgNotes
-rw-rw-r--   1 COE      hawk      555 Jun 26 09:04 VSOutput

JMuddR/Scripts:
total 48
drwxrwxr-x   2 COE      hawk      4096 Jun 26 09:04 ./
drwxrwxr-x   8 COE      hawk      4096 Jun 26 09:04 ../
-rw-rw-r--   1 COE      hawk      448 Jun 26 09:04 .cshrc.JMuddR

JMuddR/SegDescrip:
total 224
drwxrwxr-x   2 COE      hawk      4096 Jun 26 09:04 ./
drwxrwxr-x   8 COE      hawk      4096 Jun 26 09:04 ../
-rw-rw-r--   1 COE      hawk     1207 Jun 26 09:04 COPYRIGHT.TXT
-rwxrwxr-x   1 COE      hawk      170 Jun 26 09:04 DEINSTALL*
-rw-rw-r--   1 COE      hawk    13264 Jun 26 09:04 LICENSE.TXT
-rwxrwxr-x   1 COE      hawk      276 Jun 26 09:04 PostInstall*
-rw-rw-r--   1 COE      hawk        88 Jun 26 09:04 ReleaseNotes
-rw-rw-r--   1 COE      hawk      699 Jun 26 09:04 SegInfo
-rw-rw-r--   1 COE      hawk      613 Jun 26 09:04 SegName
-rw-rw-r--   1 COE      hawk      176 Jun 26 09:04 VERSION
-rw-rw-rw-   1 COE      hawk      111 Jun 26 09:04 Validated

JMuddR/bin:
total 32
drwxrwxr-x   2 COE      hawk      4096 Jun 26 09:04 ./
drwxrwxr-x   8 COE      hawk      4096 Jun 26 09:04 ../

JMuddR/data:
total 32
drwxrwxr-x   2 COE      hawk      4096 Jun 26 09:04 ./
drwxrwxr-x   8 COE      hawk      4096 Jun 26 09:04 ../

JMuddR/lib:
total 1360
drwxrwxr-x   2 COE      hawk      4096 Jun 26 09:04 ./
drwxrwxr-x   8 COE      hawk      4096 Jun 26 09:04 ../
-rw-rw-r--   1 COE      hawk     51310 Jun 26 09:04 jmudd.jar
-rwxrwxr-x   1 COE      hawk    280172 Jun 26 09:04 libjmudd.sl*

```

## **A.2 Descriptor Files**

### **Segment Name**

```
#=====
# Segment type descriptor for the JMudd Runtime Software Segment
#=====
$TYPE:SOFTWARE

#=====
# ModName descriptor file for the JMudd Runtime Software Segment
#=====
$NAME:JMudd Runtime
$PREFIX:JMuddR
$SEGMENT:JMCIS:JMCIS:/h/AcctGrps/JMCIS
$SEGMENT:C4I:C4I:/h/AcctGrps/C4I
$SEGMENT:GCCS Account Group:GCCS:/h/AcctGrps/GCCS
$SEGMENT:Database Administrator:DBA:/h/AcctGrps/DBAdm
```

### **Segment Information**

```
[Hardware]
#=====
# Hardware descriptor for the JMudd Runtime Software Segment
#=====
$CPU:HP
$OPSYS:HPUX
$MEMORY:64000
$DISK:431

[ReqrdScripts]
#=====
# Required scripts for the JMudd Runtime Software Segment
#=====
.cshrc:.cshrc.JMuddR

[Security]
#=====
# Security descriptor for the JMudd Runtime Software Segment
#=====
UNCLASS

[Direct]
$NOCOMPRESS
```

### **Version**

```
#=====
# Current Version for JMuddR
#=====
1.0.0.0 : 06/26/98
```

## **Post Install**

```
#!/bin/csh -f

#####
#
#   JMudd Runtime Segment Post Install Script
#
#####

if ($?INSTALL_DIR) then
    setenv JMuddR_HOME $INSTALL_DIR
else
    setenv JMuddR_HOME /h/JMuddR
endif
```

## **DeInstall**

```
#!/bin/csh -f

#####
#
#   JMudd Runtime Segment DeInstall Script
#
#####
```

## **Release Notes**

This release adds new functionality to the JMuddR segment:

- Initial segment delivery.

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13. HEADINGS. The Section headings herein are intended for reference and shall not by themselves determine the construction or interpretation of this agreement.

## **Appendix B - Changes/Updates Since Preliminary Release**

This section does not apply to initial software releases.

## **Appendix C - Known Problems and Errors**

There are no known problems or errors associated with this initial release of the JMuddR Segment.